

## CLAIMS

- 1 1. A method for managing a data imaging service from a management terminal in a  
2 distributed computer system having a host computer system with at least one  
3 storage device connected to the computer system by driver software, the method  
4 comprising:  
5 (a) inserting an interface layer between the driver software and the storage  
6 device, the interface layer exporting a platform dependent API and  
7 controlling data passing between the driver software and the storage  
8 device;  
9 (b) running, in the host computer system, management facade software that  
10 converts the interface layer API to platform-independent method calls;  
11 (c) running, in the host computer system, a federated bean that generates  
12 method calls to the management facade to control the interface layer; and  
13 (d) controlling the federated bean to designate master volumes, shadow  
14 volumes and bitmap volumes and to transfer data between specified  
15 master and shadow volumes.
- 1 2. The method of claim 1 wherein step (d) comprises controlling the federated bean  
2 with a command line interface.
- 1 3. The method of claim 1 wherein step (d) comprises controlling the federated bean  
2 with a graphical user interface.
- 1 4. The method of claim 1 wherein step (d) comprises:  
2 (d1) creating a volume set; and  
3 (d2) designating a master volume, a shadow volume and a bitmap volume as  
4 part of the volume set; and  
5 (d3) performing data imaging operations on the volume set.

- 1 5. The method of claim 4 wherein a plurality of volume sets are created and  
2 wherein the method further comprises:
- 3 (e) creating a set group; and  
4 (f) adding selected volume sets to the set group; and  
5 (g) controlling the set group with a single command to perform data imaging  
6 operations on each set in the set group.
- 1 6. The method of claim 4 further comprising attaching an overflow volume to the  
2 volume set.
- 1 7. The method of claim 4 wherein the computer system has a first host with a  
2 volume set thereon and a second host and the method comprises exporting a  
3 shadow volume in the volume set from the first host.
- 2 8. The method of claim 7 further comprising importing the shadow volume exported  
3 by the first host into the second host.
- 1 9. Apparatus for managing a data imaging service from a management terminal in a  
2 distributed computer system having a host computer system with at least one  
3 storage device connected to the computer system by driver software, the  
4 apparatus comprising:
- 5 an interface layer located between the driver software and the storage  
6 device, the interface layer exporting a platform dependent API and controlling  
7 data passing between the driver software and the storage device;
- 8 management facade software that runs in the host computer system and  
9 converts the interface layer API to platform-independent method calls;
- 10 a federated bean that runs in the host computer system and generates  
11 method calls to the management facade to control the interface layer; and

12 a presentation program that controls the federated bean to designate  
13 master volumes, shadow volumes and bitmap volumes and to transfer data  
14 between specified master and shadow volumes.

1 10. The apparatus of claim 9 wherein the presentation program comprises a  
2 command line interface.

1 11. The apparatus of claim 9 wherein the presentation program comprises a  
2 graphical user interface.

1 12. The apparatus of claim 9 wherein the presentation program comprises:  
2 program methods for creating a volume set; and  
3 a screen display for designating a master volume, a shadow volume and a  
4 bitmap volume as part of the volume set; and  
5 program methods for performing data imaging operations on the volume  
6 set.

1 13. The apparatus of claim 12 wherein a plurality of volume sets are created and  
2 wherein the apparatus further comprises:  
3 program methods for creating a set group; and  
4 a screen display for adding selected volume sets to the set group; and  
5 program methods for controlling the set group with a single command to  
6 perform data imaging operations on each set in the set group.

1 14. The apparatus of claim 12 further comprising program methods for attaching an  
2 overflow volume to the volume set.

1 15. The apparatus of claim 12 wherein the computer system has a first host with a  
2 volume set thereon and a second host and the apparatus comprises means for  
3 exporting a shadow volume in the volume set from the first host.

1 16. The apparatus of claim 15 further comprising means for importing the shadow  
2 volume exported by the first host into the second host.

1 17. A computer program product for managing a data imaging service from a  
2 management terminal in a distributed computer system having a host computer  
3 system with at least one storage device connected to the computer system by  
4 driver software, the computer program product comprising a computer usable  
5 medium having computer readable program code thereon, including:

6 interface layer program code located between the driver software and the  
7 storage device, the interface layer code exporting a platform dependent API and  
8 controlling data passing between the driver software and the storage device;

9 management facade software that runs in the host computer system and  
10 converts the interface layer API to platform-independent method calls;

11 a federated bean that runs in the host computer system and generates  
12 method calls to the management facade to control the interface layer; and

13 a presentation program that controls the federated bean to designate  
14 master volumes, shadow volumes and bitmap volumes and to transfer data  
15 between specified master and shadow volumes.

1 18. The computer program product of claim 17 wherein the presentation program  
2 comprises a command line interface.

1 19. The computer program product of claim 17 wherein the presentation program  
2 comprises a graphical user interface.

1 20. A computer data signal embodied in a carrier wave for managing a data imaging  
2 service from a management terminal in a distributed computer system having a  
3 host computer system with at least one storage device connected to the  
4 computer system by driver software, the computer data signal comprising:  
5 interface layer program code located between the driver software and the  
6 storage device, the interface layer code exporting a platform dependent API and  
7 controlling data passing between the driver software and the storage device;  
8 management facade software that runs in the host computer system and  
9 converts the interface layer API to platform-independent method calls;  
10 a federated bean that runs in the host computer system and generates  
11 method calls to the management facade to control the interface layer; and  
12 a presentation program that controls the federated bean to designate  
13 master volumes, shadow volumes and bitmap volumes and to transfer data  
14 between specified master and shadow volumes.